

Study of Knowledge and Attitude of Interns and Postgraduates about Tocolytics at M.R. Medical College, Gulbarga

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Abstract

Objective: The present study was undertaken to assess the knowledge, attitude of tocolytics among interns and postgraduate students of M.R. Medical College, Gulbarga.

Materials and Methods: An Observational study was carried out among interns and postgraduate students of M.R. Medical College. 100 students were included during the study period of one and half months from 1st September to 15th October 2014. The data was collected in a Proforma which included questionnaire.

Results: The results reveals that 71% of students answered correctly about the basics of tocolytics, 77% of students answered correctly about Beta-2 agonists, 66% of students answered correctly about Calcium channel blockers, 73% of students answered correctly about Nonsteroidal anti-inflammatory drugs, 62% of students answered correctly about Magnesium sulfate and 51% of students answered correctly about Atosiban.

Conclusion: Results of the study reveals that most of the students are aware and have good knowledge about the pharmacology of tocolytics. Knowledge about newer tocolytics is moderate and needs more awareness.

Keywords: Magnesium Sulfate, Atosiban, Calcium channel blockers

1. Introduction

Preterm labour is defined as one where the labour starts before the 37th completed week (<259 days) counting from the first day of the last menstrual period [1]. Preterm birth is one of the main clinical problems, commonly encountered in obstetrical practice and has worldwide incidence in the range of 5-11% [2]. It is the leading cause of death among newborn babies up to 28 days and is the second commonest cause of death after pneumonia in children younger than 5 years [3]. Prematurely delivered infants have incompletely developed haemostatic mechanisms, and therefore they are more prone to develop life-threatening complications like hypothermia, hypoglycemia, respiratory distress syndrome, infection and jaundice [4]. The aim of tocolysis is to suppress uterine contractions and delay preterm delivery [5,6], thereby (a) arranging maternal transfer from a regional to a tertiary level medical centre with appropriate neonatal care facilities (b) delaying delivery with tocolytics and optimizing fetal lung maturation using antenatal corticosteroids[5,6]. β_2 agonists, Calcium Channel Blockers, Magnesium Sulfate, Nonsteroidal anti-inflammatory drugs and Oxytocin-receptor Antagonists are the commonly used tocolytics. Interns and Postgraduates routinely come across cases of preterm labour and tocolytics are the drugs most commonly prescribed for their treatment. Hence this study was done to assess the knowledge, attitude of tocolytics among interns and postgraduates.

2. Material and Methods

It was an Observational study. The study population consisted of interns and postgraduates of Mahadevappa Rampure Medical College, Gulbarga, Karnataka. The study was conducted anonymously for a period of one and half months from 1st September to 15th October 2014. The study was carried among 110 participants, but 10 volunteers did not respond. Therefore, analysis was performed on 100 students who responded. The data was collected in a Proforma which included questionnaire about basics of tocolytics, β_2 agonists, Calcium Channel Blockers, Magnesium Sulfate, Nonsteroidal anti-inflammatory drugs and Oxytocin-receptor Antagonists. All the participants were explained about the type and purpose of the study and informed that participation is voluntary and written informed consent was obtained. Ethics committee approval was obtained from the Institutional Ethics Committee. Data was analyzed and presented as percentages using descriptive statistics.

2.1 Statistical Methods

Data was analyzed and presented as percentages using descriptive statistics.

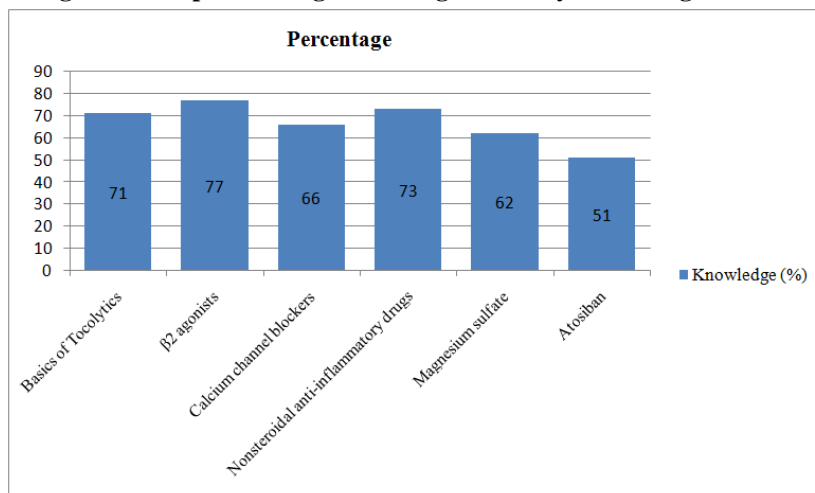
3. Results

71% of students answered correctly about the basics of tocolytics, 77% of students answered correctly about β_2 agonists, 66% of students answered correctly about Calcium channel blockers, 73% of students answered correctly about Nonsteroidal anti-inflammatory drugs, 62% of students answered correctly about Magnesium sulfate, 51% of students answered correctly about Atosiban. Students had positive attitude towards tocolytics. Students had positive attitude towards tocolytics.

Table 1: Showing Knowledge of Tocolytics among Students

Tocolytics	Knowledge (%)
Basics of tocolytics	71
β_2 agonists	77
Calcium channel blockers	66
Nonsteroidal anti-inflammatory drugs	73
Magnesium sulfate	62
Atosiban	51

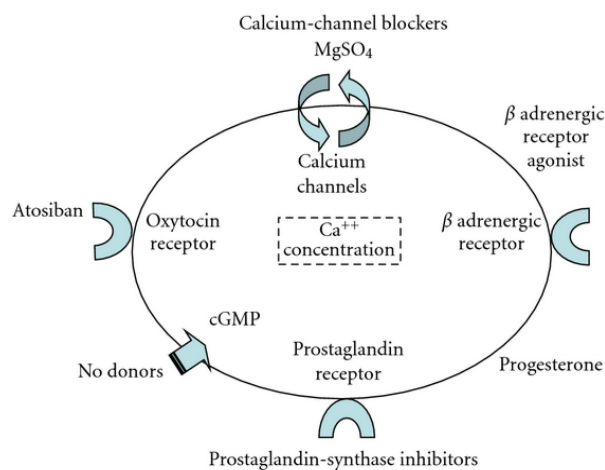
Figure 1: Graph Showing Knowledge of Tocolytics among Students



4. Discussion

Myometrial contractility is a complex process and involves the presence of hormonal receptors, ion channels, intercell gap junctions, and regulatory proteins such as oxytocin, endothelin, tachykinin, and angiotensin [7, 8]. Increase of intracellular calcium concentration is essential for the uterine smooth muscle contraction [8]. Tocolytics are the drugs aimed at treating this serious multifactorial syndrome.

Figure 2: Mechanism of action



β adrenergic receptor agonists, nitric oxide (NO) donors, magnesium sulphate and calcium channel blockers cause uterine relaxation by interfering with intracellular messenger responsible for contraction [9-11]. Atosiban combines with oxytocin receptors and act as an antagonist at this receptor and thereby prevent the actions of oxytocin. Prostaglandin synthesis inhibitors cause tocolysis by interfering PG synthesis and interfering with endogenous myometrial stimulators [9-11]. Magnesium sulfate and Atosiban are the preferred tocolytics in diabetes, hypertension, coronary artery disease, hyperthyroidism patients [12]. In conditions like multiple pregnancies, expanded blood volume and anemia may predispose to pulmonary edema when tocolytic agents such as β adrenergic receptor agonists, magnesium sulphate, and calcium channel-blockers are prescribed. In these pregnancies, novel drug atosiban, with low incidence of side effects, seems to be the safest drug [13].

5. Conclusion

Results of the study reveals that most of the students are aware and have good knowledge about the pharmacology of tocolytics. Results of the study showed that students had Positive attitude towards the tocolytics. Knowledge about newer tocolytics is moderate and needs more awareness. Prevalence of preterm birth has increased during the last decades and is becoming a real public health concern, so we have to work harder to make students aware about pharmacology of tocolytics, at the undergraduate and postgraduate level, which will help in reducing the incidence of complications of preterm birth, side effects and also in choosing a tocolytic which has maximum benefit with minimal harm to both mother and baby.

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